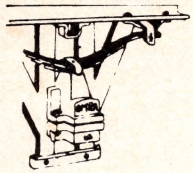

EDITORIAL
JOURNAL BOX 1/79

EDITORIAL

Firstly, let me wish you all a very prosperous New Year. I must be catching up a bit, as this is being written on 21 January and all the pre-typing for this Journal is ready for the Typist. Ken has started on the Nov/Dec, and hopefully, by the time this Journal is typed, he will be ready to start on it.

Things are only mediocre copy wise though. I will come to a grinding halt at the end of the Mar/Apr Journal unless I get some more soon. Still there are about 50 pre-1965 Journals left that I can 'lift' articles from. Looking at the current membership list, there are not many members who would have seen them. I also have permission to reprint articles from such magazines as the Vic Rail Newsletter, NSW PTC Transport News and ROA Network.

Would you believe that I seem to have run out of filler photos? Even those 'superprints' can be used with a little trimming or masking, provided that they are nice and sharp and of good contrast.

Rex Little
Editor

****

ON THE COVER

A night scene on R Williams' N gauge layout at the West Australian Branch Exhibition, 1978.

Photo by Jack Parker

****

Volume 28 Issue 133

Contents

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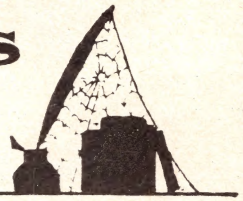

Well the A.G.M. is over and the new Committee is as follows:

Federal President Keith Wilcox
12 Sullivan Street, Blacktown 2148
Federal Vice President Roy Cornish
77 Allambie Road, Allambie Heights 2100
Federal Secretary Norm Read
3 Augusta Street, Strathfield 2135
Federal Treasurer Ken Edwards
8 Easton Road, Borowra Heights 2082
Federal Registrar Geoff Chatwin
52 Landra Avenue, Mt Colah 2079
Committeemen George Bray
41 Murrami Avenue, Caringbah 2220
Tom Parkes
85 Soldiers Road, Jannali 2226

Membership at the time of the A.G.M. stood at 691, made up as follows:

Victoria	7 new	255 renew	2 Aux
NSW	28 "	235 "	4 "
Qland	4 "	49 "	- "
WA	6 "	70 "	2 "
SA and NT	1 "	11 "	- "
Tasmania	- "	2 "	- "
ACT	- "	6 "	2 "
Overseas	- "	7 "	- "

We did finish the year with 850, but there are always a number of laggards who need a reminder, plus the usual ones who do not renew. Some give reasons, others just fade away into the night!!

It has been said many times that one only gets back in benefits in proportion to what one is prepared to put in. The following members have given generously of their time to A.M.R.A. and have received the Meritorious Award:
Bill Morehouse from Victoria
George Bray from New South Wales
Arthur Hayes from Queensland
Simon Mead from Western Australia
June Dunn has been made an Honorary Life Member in recognition of her nine solid years as Registrar. The C.O.M's congratulations to all of you, and our thanks for your contributions to the welfare of the Association.

So far we have not received any practical suggestions as far as Journal is concerned. We have been told that there is not much in it - well we have appealed for copy long enough, and for that we are told we complain too much! Boy, one cannot win!! Being optimists we do hope to get back on target early in the year, even if only with an Editorial and a Secretary's Desk between the covers!!

There has been some comment on reprints. My answer is that at the time the originals were printed, we had less than 300 members, so to 500 plus members they are new, and anyway an interesting item is always worth a second reading to any modeller worth a pinch of salt, as the saying goes.

Our Railway systems cop their fair share of brickbats, but I saw in a railway magazine this week where, with all the claims of space age technology in the USA, they still haven't eliminated the 'bugs' from the BART System, and cannot operate at the frequency planned. Another item of news that caught my eye was a near head-on, on the Trans-Australia, and this only two days after Jack Parker and myself came back on the I.P. from Perth. Just as well they were not doing 260 kph as the first French TGV did on its trials on 23 August.

Whilst in Brisbane for the Hobby Week Exhibition, I was able to be among those who, after the first official train had made the trip across the new rail link between South Brisbane and Roma Street, also made the return trip for 50¢, complete with a souvenir

ticket, and a scroll for $1 commemorating the occasion. All the proceeds from the weekend went to Rotary, and I did hear a figure of 12 000 passengers by after lunch on Sunday being mentioned. There was also a carnival on the river bank in conjunction with the train rides, at which the Queensland Branch had a small display. This was a model of the new bridge, made by Arthur Robinson. Full marks to the Branch for their enterprise in this venture.

The Qld Branch display at the Hobby Week Exhibition was an extremely well presented scenic layout which received many compliments from the public. The harbour was populated with various boats which were built from Corn Flakes packets. I am told that these are produced during dull periods of television viewing, and from the results there should be more dull periods. With the repeat season in full swing, there could be a big demand for empty packets. I wonder how many other projects are carried out in the same circumstances?

The well presented displays at various functions other than the Branch Exhibitions are good publicity for the Branch as well as the Association, and those responsible for these efforts are to be commended. They do use a lot of that very precious commodity, spare time, but it does demonstrate that some members have an appreciation of the aims of the Association. Which exemplifies my earlier remark about putting something in, and not always wanting.

If any member, when writing about a missing Journal, would please give the issue number (109 or 130 or whatever the case might be), it will help the Registrar to find it easily.

Back issues are available from the Registrar at 45¢ each plus 30¢ postage, but stocks are limited.

Norm Read

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PRESIDENT'S CORNER

PRESIDENT'S ANNUAL REPORT

This will be my final report as Federal President of the Association. Of course this will not be news to the majority of members, as I informed the C.O.M. of my intention not to stand for re-election before the nomination forms were sent out.

Eventually we saw Journal 109 in print, and for this we must thank the Publishing Committee. For the minority of members who thought it would have been better for it to remain unprinted. I must add, that it was the obligation of the C.O.M. to keep faith with the members who were financial in 1974 and were entitled to receive this particular issue.

This year we had hoped to be back to our normal six issues of the Journal. However, to date, we have only received three, plus of course Journal 109. It is obvious that the Publishing Committee still have problems, one of which was the resignation of Maurie McKinnon as Publisher. This gap has now been filled by Ken Down, and any member who took the time to read the letter to the Editor, by Maurie, in Journal 129, will not envy Ken his job.

Of course, the ideal way to keep in close contact with all members, would be through Journal. However, with the problems presenting themselves at this time, and Journal being so far behind, this is not a viable proposition. The C.O.M. have had long and sometimes

heated discussions on this matter, and as yet have not come up with any solution. When people like the Publishing Committee give up so much of their valuable time for AMRA, the Committee feels that it should not criticise.

Our membership still seems to be holding its own, despite the fact that we had to raise the Joining Fee this year to offset the costs of accepting new members to the Association. At the end of our financial year our membership stood at 850, an increase of 7 since 1977 when we had 843 financial members. So we are still maintaining a healthy balance. Any member who has a problem about missing an issue of Journal, or non receipt of initial literature, or any other matter relating to their membership of the Association, especially a 'CHANGE OF ADDRESS', should contact the Federal Registrar.

In my Presidential Report last year I made some remarks in paragraph 4 about only getting out of AMRA what you put into it, and also that we had a majority of members who were appreciative of the Association and its Office Bearers. This has been born out by the correspondence received by the Federal Registrar when renewal time comes round each year. A few of the resignations received are full of 'gripes' about the administration of the Association, however, the main reasons for resignations are, study by students, loss of interest in the hobby, or financial ones. All of the latter reasons are understandable, and in the main all these former members wish the Association well in the future, and thank the C.O.M. for its time and effort. In my book, one 'thank you', or 'best wishes for the future of AMRA', make up for all the 'gripes' that may be received.

I would like to thank the members of the C.O.M. and the Committee Members of all the State Branches for their help and co-operation during the last three years. I would also like to thank all those members, and friends, who in the past, have given me their assistance and valuable time while I have continued in this official capacity.

Finally, I would like to take this opportunity to wish AMRA all the best for its future progress, with the hope that it will continue to foster interest in the hobby as a whole, and that its membership numbers will increase beyond all bounds.

John Dunn

****

A.M.R.A.
MERITORIOUS AWARDS
1979

Ivo Bunker
Bob Gorrell
Alan Dowel
Stephen Suggitt
Rex Little
Norm Read
Jack Treseder
Mal Baker
John Sneddon
John Dunn
Graham Larmour
Ken Down
David Ellis
Arthur Robinson
Bruce Lovett
Eric Doherty
June Larmour
Fyfe Thorpe
Eric Lyon
John Skilton
Keith Robinson
Dot Treseder
Tony Gray
Jim Christie
Jack Parker
Rup Ackland
Bill Morehouse
George Bray
Arthur Hayes
Simon Mead

****

1979
A.M.R.A.
HON. LIFE MEMBERS

Tim Dunlop
Margaret Dunlop
Alan Wilson
Rick Richardson
Arthur Harrold
Jack Treseder
Cedric Rolfe
Faith Dean
Ernie Dean
Norm Read
Rex Little
Maurie McKinnon
June Dunn

****

THE WESTERN AUSTRALIAN BRANCH 1978 MODEL RAILWAY EXHIBITION.

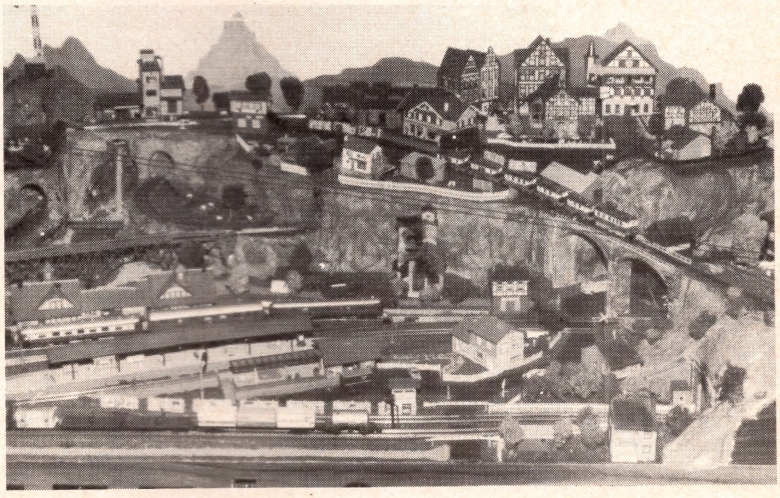
By G R Watson

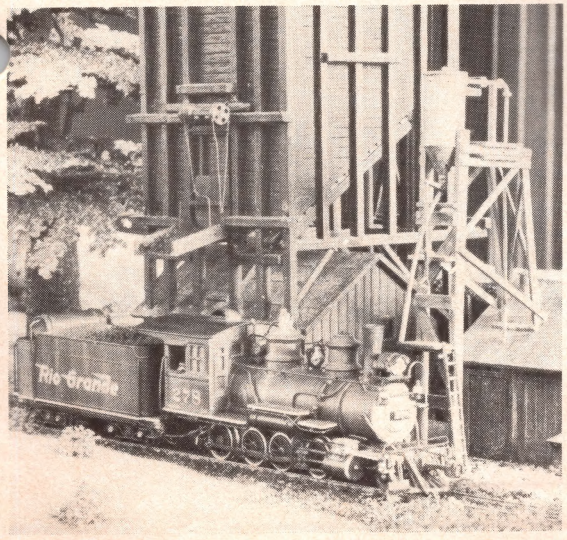
Photos by Graham Watson and Jack Parker

The WA Branch of AMRA held its fourth Model Railway Exhibition at the Subiaco City Hall, on 7, 8 and 9 October 1978, and the general opinion of all involved is that it was one of the best yet.

Twenty stands were presented to the public which included three commercial stands, ten layouts, films, clinics, and demonstrations. Below are some photos by Jack Parker, supported by some of my own, to illustrate to those who could not attend what the Exhibition was like. I have only written about the stands which have been photographed.

Stand 5 A 6' by 3' N gauge layout exhibited by Mr R Williams. This layout, was the runner up in the layout contest, and is a very highly detailed European Prototype layout. The photo shows an overall view of the detail that was packed into the layout, which included a cable car.

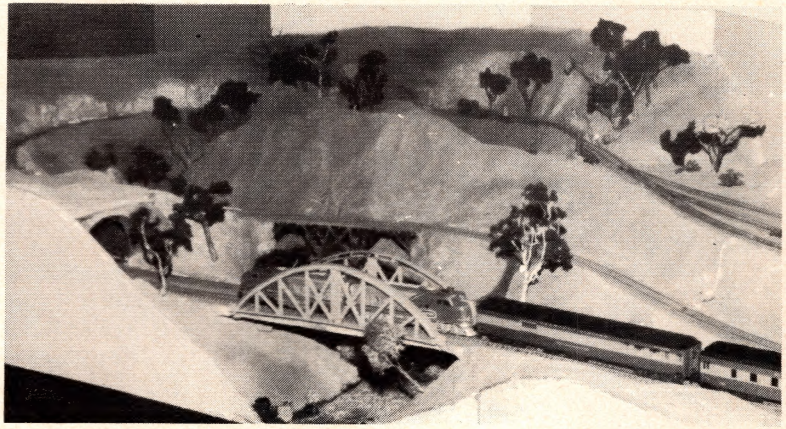




Stand 6 A 9' by 1'6" Station Layout based on the Denver and Rio Grande Railway. This HOn3 layout was exhibited by Mr S Andrews and featured many kit bashed buildings and structures, and had a fine array of expertly painted and lettered Brass locos.

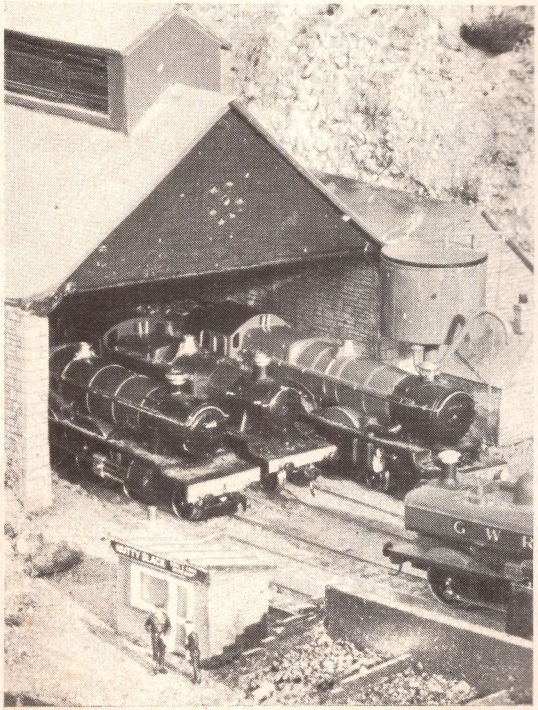
The photo shows C 16 loco No 278 as it prepares to move away from the coaling tower after having its tender filled up.

Stand 7 The AMC display included five display cases showing the basic steps in building a model railway. These handsome display cases were most generously donated to the WA Branch by AMC at the conclusion of the Exhibition.



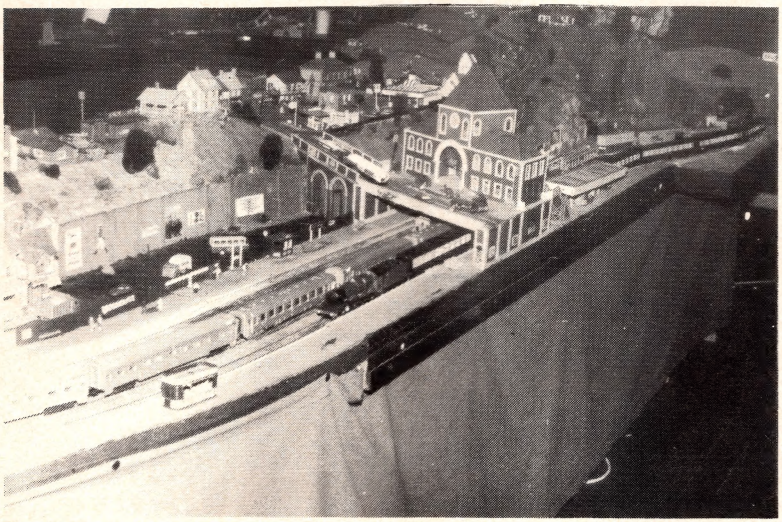
Stand 8 The WA Branch HO/OO layout newly completed, featured different prototype trains on each of the three days. This photo shows double headed F7s heading a 'limited' on the main line, while curving away to the right is the Branch line.

Stand 8 During the 'Australian' segment on the Branch layout, Jack Eagles' ~~69~~ 59 class leads a freight, while above, a light 38 passes by.

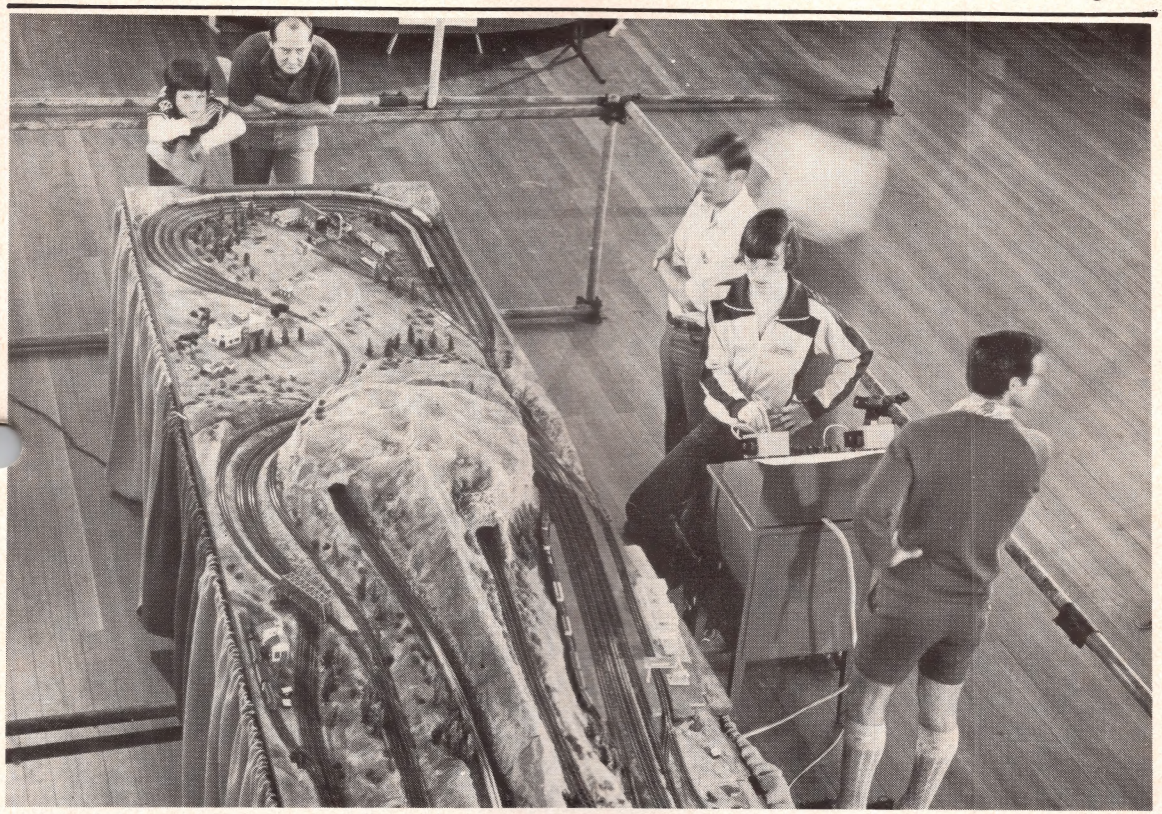


Stand 9 Fremantle and District Model Railway Association's HO/OO layout. A large, highly detailed, and colourful layout, operating a variety of proprietry stock. In the photo, the motive power depot, nestling at the foot of a steep cliff, is home for a number of G.W.R. locos.

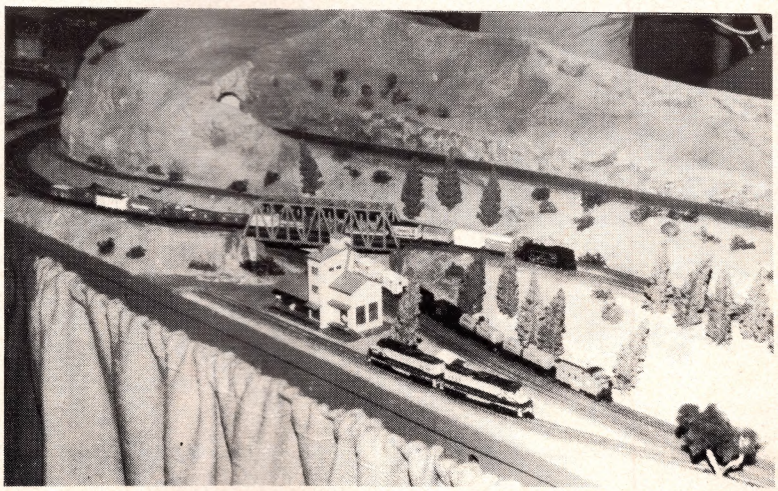
Stand 9 A general view of the Freemantle and District M.R.A. HO/OO layout.



Stand 9 A G.W.R. express draws into the platform beneath a very impressive station building on the Freemantle and District layout

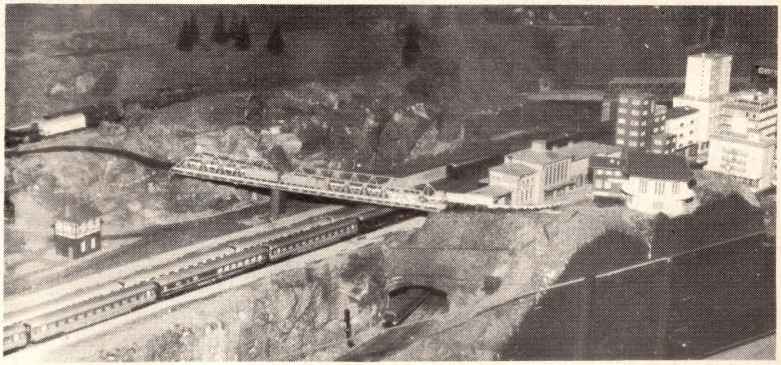


Stand 10 A birds eye view of the AMRA N gauge layout, showing much of the 200' of track which winds around the layout.



Stand 10 A picturesque corner of the AMRA N gauge layout, with the small tank loco hauling a train up a grade which tests the most powerful loco

Stand 11 The Freemantle and Districts M.R.A. N gauge layout is a fully automated mountain layout. This photo does not really do justice to the layout, which was judged by the public as the most popular.



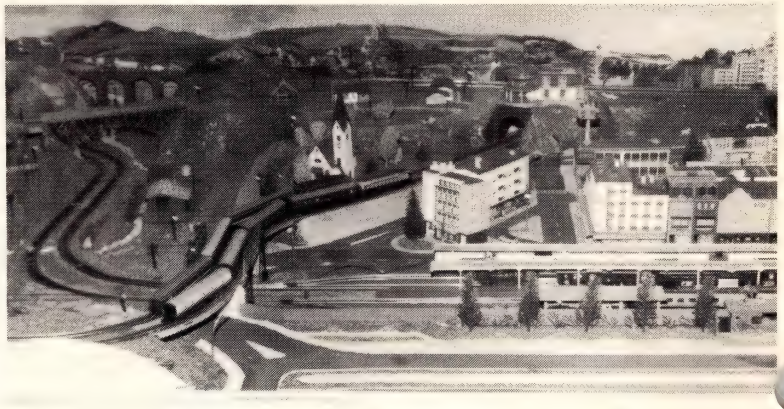
Stand 12 George Sumners' World of Trains

Stand 13 The Model Railway group of the ARHS displayed a HO and a small HOn2½ layout. They also had a static display of members' models.

Stand 17 The o-6-0 Pannier shunts private owner wagons at Somewear.

Stand 17 The 'Somewhere to Elsewhere' Branch of the G.W.R. is the EM layout of Mr Ted Thoday. This layout featured hand built track and prototypical operation.

In the photo the auto train draws its solitary coach out of 'Knowear' on the way to 'Elsewear'.



Stand 15 Mr M Weiss displayed a highly detailed 8' by 4' N gauge layout based on European operations.

Stand 18 During the Exhibition, modelling demonstrations showed the public how to construct scenery, make trees, assemble white metal kits, and how to build track. These demonstrations proved very popular, and always drew good crowds.

In the photo, 'El Presidente', Ted Thoday is caught in the act during his demonstration of hand building track, using the 'proto four' method.

The stands not illustrated are -

Stand 1	A.M.R.A. Information Stand
Stand 2	W.A.R.M.A. static display of rolling stock and locos
Stand 3	Castledare Miniature Railway Models of 7¼" gauge locos and rolling stock
Stand 4	Raffle layout
Stand 14	Commercial display. Jack Stanbridge's Hobby Shop
Stand 16	South Suburban M.R.C. HO/OO layout
Stand 19	Refreshment stand
Stand 20	Films

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A DIFFERENT APPROACH TO N GAUGE SIGNALLING.

By D H Andrews

In reply to two articles in the May/June issue, 'lack of copy, and the absence of N gauge signals in Australia', I have decided to write this article. Firstly, a little of my background.

My introduction to railroad modelling as a serious hobby, started in 1975 and I have a lot to learn yet. My interest is keenly associated with the electrical side, as I am an electronic technician by trade. Lack of hobby finance forced me to manufacture what I could. This included signals, which brings me to the point of the article. The signals that I have made are the 'nearest to scale' of any that I have personally seen.

The signals are the two colour light type, using red and green light emitting diodes (LEDs). The LED is a diode that emits light when an electrical current is passed through it. Fortunately red and green are the most common colours. Yellow is available in the ultra miniature size required for N gauge, but the yellow colour is barely discernable from the green, so two colour was the choice.

Fig 1 shows the basic details for construction. The rear backing plate is made from a piece of printed circuit board. This acts as a mounting and soldering base for the LEDs. The upright is a piece of 1/16" brass tube which acts as the power line to the red LED. It also accommodates the two fine enamel covered wires for the other two connections. The base is also a piece of PCB which acts as an intermediate terminating point for external wiring. The identification plate is a piece of brass shim soldered to the post. The most difficult part to manufacture was the ladder. The side rails are pieces of fine wire with the rungs of even finer wire, each individually soldered. Needless to say patience and a delicate touch with the soldering iron are essential.

The majority of the mechanical construction is straight forward. This cannot be said for the electrical operation. The LED is a relatively sensitive device, as either wrong connection or too much voltage can destroy it. The circuitry to activate them can be either an electronic device or a relay, the latter being a simpler method. I will not discuss the electronic method now, as this may be the basis for a future article.

In Fig 2 a positive voltage is derived from a conventional power supply circuit, with 7½ to 12 volts as a nominal figure. This is regulated by a regulator module (an LM309K or similar) to +5 volts. The regulation is used to ensure constant supply voltage to the LEDs regardless of the number of signals in use at any one time. The 5 volt output is applied to the tongue of the relay's change over contacts. The other contacts go away to the anodes of the LEDs. The cathodes are joined and share a common resistor to ground. This resistor MUST NOT, under any circumstances, be shorted out or forgotten, as either case will destroy the connected diode if power is applied. With the LM309K regulator, about 25 signals can be operated from the one supply.

When fully assembled and tested, the whole signal is sprayed matt black. While still moist, the tips of the LEDs are wiped off, thus giving a searchlight effect. When dry, a little weathering will remove the starkness of the black paint.

For some time now I have been considering the production of a modular signalling set for sale. The system would basically consist of a power supply and an electronic package for 4

signals. Additional signals to expand the basic set being available separately complete with hardware. This system would lend itself only to permanent and semi-permanent layouts. Any comments from members on this idea would be appreciated. Enquiries may be made to 2 Elizabeth Court, Mooroolbark, Vic 3138.

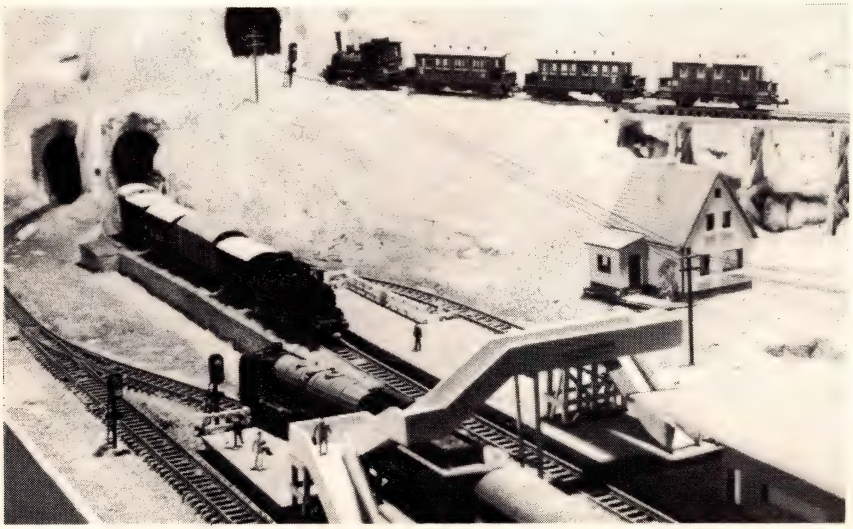
In finishing off, for those who have a try at building the signal, I wish you luck, and hope you enjoy the slightly added realism that I have enjoyed.

****

Mainline Signal The loco (a Minitrix 4-6-2) is placed to give size comparison

Mainline signals at a station

Branch line road crossing Warning indicators are also home-made using LEDs. The circuit flashes automatically on the approach of a train



EXHIBITION LAYOUT
Outside mainline on the left
Local country line in the centre
Mountain Branch at the rear

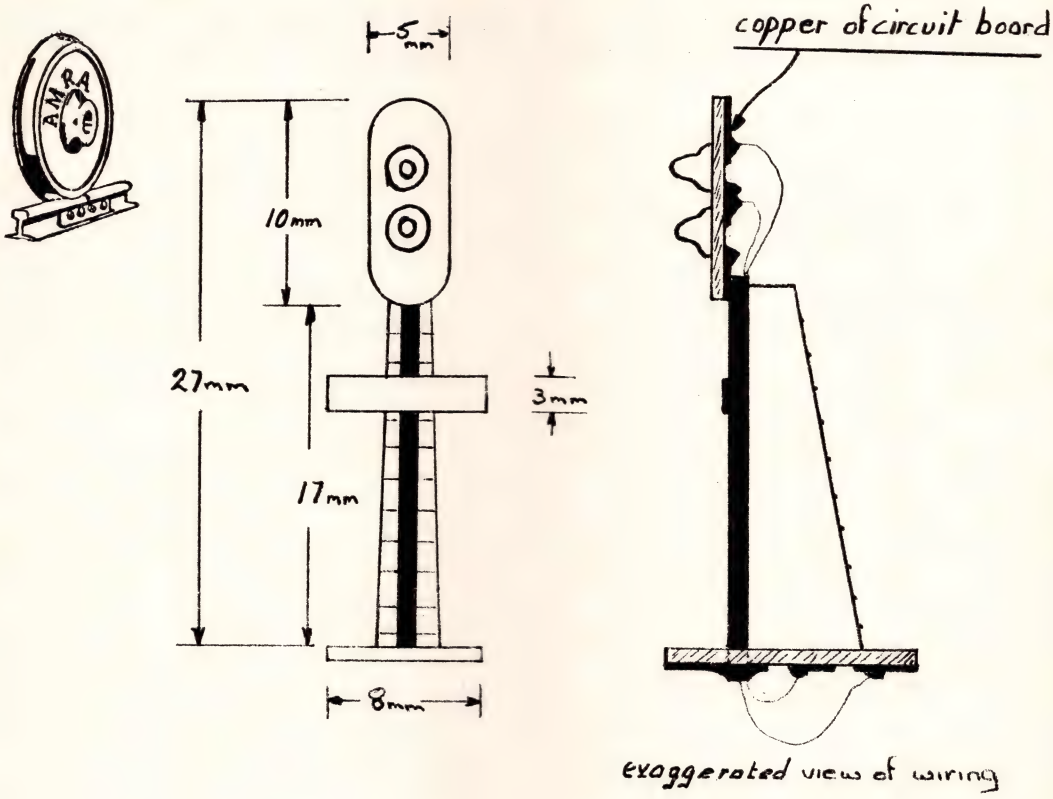


FIG 1 Measurement and Construction Details

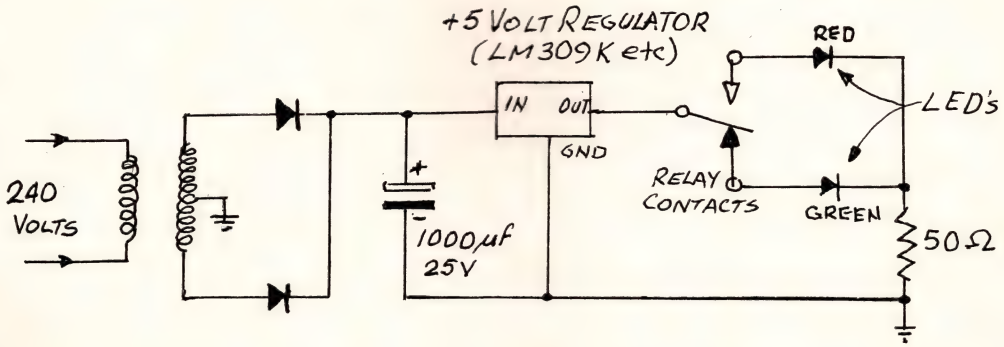


FIG 2. SIMPLE POWER SUPPLY AND RELAY SIGNAL CONTROL

Modular railway modelling - part 1

By Paul E Ingraham,

NRMA National Modular Co-ordinator

A four part series published in Journal with the permission of the Author

1 A Closer Look

The idea of building model railway layouts in sections is not new. It has been around for over forty years. It may have begun with a view to providing an exhibit which could be moved about from show to show, or it could have been the answer to a storage or transport problem. But those early layouts were not what we term 'modular'. Generally, they could only go together in one way. What we mean by modular today is that the units which make up the layout are interchangeable. They are so because certain features are standardised between the units.

The modular concept is catching on in a big way. As NMRA Modular Co-ordinator, I have had the opportunity of examining over twenty different ideas for specifications in all scales and with different approaches. It seems prudent that those working with the concept have some guidelines to follow in developing their systems so that the full potential of the concept can be exploited and to prevent too many limitations being written into the specifications. That's what my job is all about.

ADVANTAGES OF MODULES

In his article 'Modular Layout Systems' in the NMRA Bulletin, June 1977, pp. 8-9, Jim Fitzgerald listed several practical advantages for using modules; the ease of working on a portable unit, each of transport, club flexibility, and inter regional sharing at meets. There are others:

Modules make an excellent introduction to the hobby. With only a moderate investment of time and money, a person can build a piece of a home or club layout. He learns basic planning, carpentry, trackwork and electrical skills; skills he will need if he stays in the hobby. And he can do this in his own home at his own pace, and not feel intimidated by more advanced modellers as sometimes at a club. And, when he's finished, he has something he can share with others in a larger context at a meet or club. Or he may find that railway modelling is not for him. He has not lost much time or capital in finding out, and he may be able to recoup his investment by selling the module to another modeller.

For workers with space limitations, being able to pack up the layout when the train room is needed for other activities is an attractive advantage of modules.

But perhaps the major advantages of modules are psychological. Have you ever looked at, or drawn up, a track plan for a large home or club layout, and then asked yourself, 'Will this ever get finished?'. Here the modular concept can be a big help. A module can be constructed in a reasonably short time. When completed it can provide immediate operation - a finished layout - while the next piece is being built. With modules you can always have a complete layout. And you proceed down the line just like a real railway.

Another advantage comes later when the modeller discovers that some section of the layout does not offer the satisfaction he thought it would when planned and first built. Whether it is the track plan, the wiring, or the scenery that needs revision. It certainly is a lot easier to pull the section out of the layout, than to rebuild it by climbing over a permanent setup. And even with the section removed, the layout is still fully operational!

These same advantages accrue to a club layout built in modules, with the added possibility that the modules can be traded around among the members so that the best carpenter cuts the benchwork, the best electrician does the wiring and the best gandy dancers lay the rail.

There is one aspect of layout design which can ONLY be achieved with modules and that is, complete rearrangement. Given flexible enough guidelines, it is possible to design modular units which are easily and equally interchangeable. They can be used in any position in a layout, and permit the formation of continuous running or point to point configurations, or any combination of different operating schemes.

It IS possible to design a system that will meet all the requirements of home, club, and exhibit layouts - a system versatile enough to encourage creative planning, yet sufficiently structured to ensure reliable operation. That is the goal of the NMRA modular guidelines proposed here.

Let us start from the ground up - literally - and draw up the criteria to be met. In doing this we will also discover how the modular idea can contribute to fulfilling these, and see what is required of the gudelines to ensure that the criteria are met.

CONCEPT AND PLANNING

In designing a modular system, remember first and foremost that you are building a railway. All the sound basic planning principles that apply to any good model railway also apply to modular modelling.

Pick up a map of any transportation system and look at it. What you see are points connected by lines. This means that there is something at the point that is needed at another point, and that a system has been devised to move it from one to the other. Now let us look at the system in terms of the relative importance of its elements. The points represent areas of activity which we can term activity nodes. The lines can represent the railway, the means chosen for moving goods and people between the activity nodes along its route. While the railway and its equipment can be fascinating in their own right, they exist only because of the nodes which they serve. In creating a model railway, this priority must always be borne in mind. A layout otherwise conceived will quickly become boring.

The modular concept can help to focus attention on the activity nodes. Each module becomes a node - a piece of life. These are linked together logically by the railway. This is a big help for operators and viewers alike.

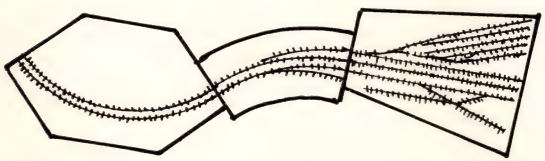
For operators the progression from module to module helps make clear the sequence of the line. Railways run from point to point. The modules are those points - one after another - not one above, behind, or under the other as found in more traditional planning concepts.

For viewers the modular concept brings together the railway as a whole. The viewer can follow the progress of a train as it proceeds from point to point. Each scene is studied in turn as a work of art. Each module is a scene in itself to be studied in depth. By dealing with a limited area, distracting elements are eliminated. That station area will now hold the eye that otherwise would have been drawn away by adjoining structures or the multi-layered strata of track on the mountain behind it.

The details of planning each individual module are a complex topic. There are both practical and aesthetic questions to consider. Many of these will depend upon the proposed uses to which the modules are to be put - home, club, and display may require somewhat different emphasis. But the use of modules will help to focus attention on the essentials of the scene in each activity node. For one thing, the size limitations of the module will help prevent the proliferation of track often found in 'plan book' layouts. And when the builder remembers that he is only build-

ing one piece of a bigger layout, he tends to concentrate on a more balanced scene in which the railway is put into proper perspective. The trackwork is planned and constructed more carefully with thought to the operating possibilities. The structures and scenery receive more detailed attention too, even on the simpler straight through modules the lineside detail receives greater attention than is normally found on most model systems.

In considering each module as an activity node, one quickly realises that different activities will require different sizes and shapes of modules. And, indeed, the modular concept can accommodate these. It is not at all necessary to a modular system that size or shape of the individual units be specified. These should be determined solely by aesthetic and operational requirements in each scene, and by practical storage, transport and set up limitations. While most modular units will probably be rectangular, other useful shapes can include - but need not be limited - to those shown in Figure 1. Even rectangular units will need to be flexible in concept to accommodate differing types of activity nodes. Figure 2 shows some examples.



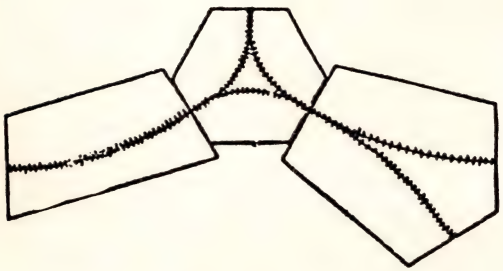


Figure 1

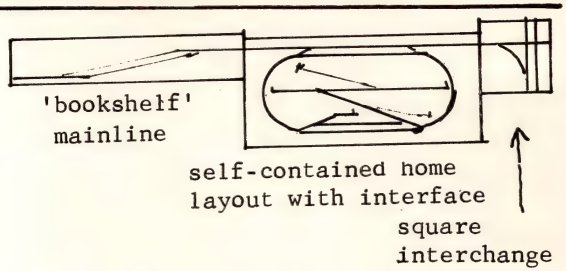
Curved yard throat

6 sided 90° corner

trapezoidal yard

pentagonal junction

hexagonal wye



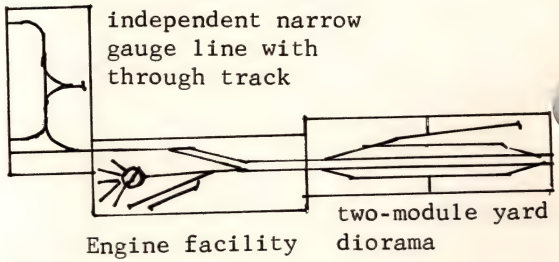


Figure 2

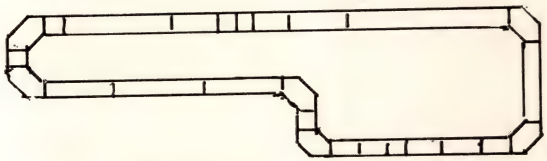
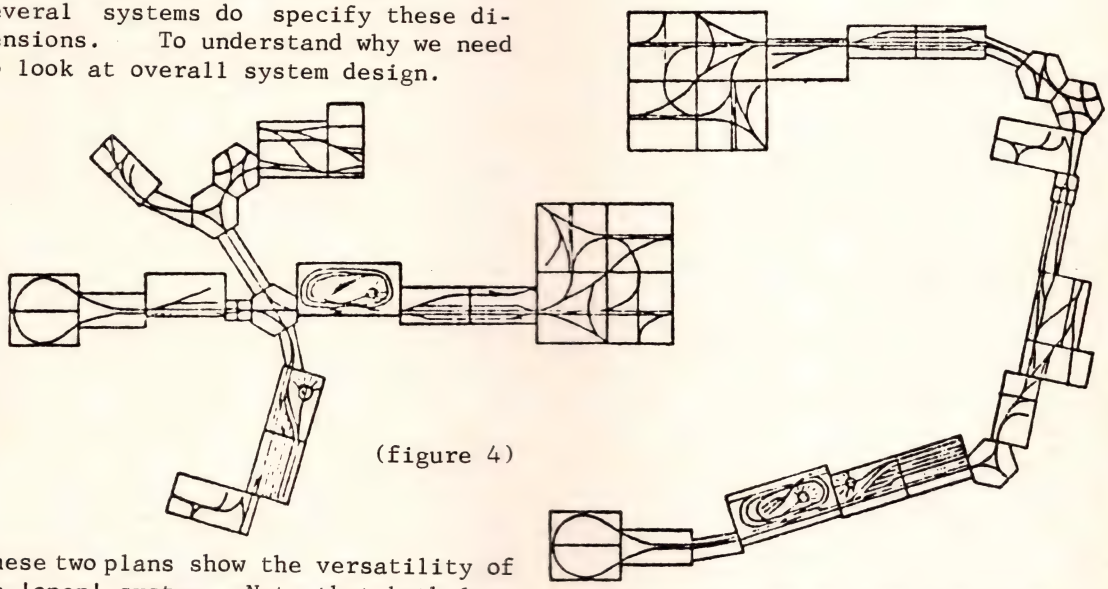


Figure 3

Though certain variations in layout shape can be made in the 'closed' system, it still retains a formal feeling. This was the NTRAK layout at the Chicago convention.

MODULAR SYSTEM DESIGN

In drawing up optimal guidelines any attempt to specify standard sizes of surface shapes must be avoided. But several systems do specify these dimensions. To understand why we need to look at overall system design.



(figure 4)

These two plans show the versatility of an 'open' system. Note that both layouts are made from the same modules. These were the Interail layouts at Denver in 1977.

Modular systems can be classified as one of two types - closed or open. In the closed system the track plan is designed to form a closed loop of track. It finds most common use in continuous running display systems. Figure 3 shows an example of a closed system. Such systems require that the lengths of the sides of the oval come out even so that the loop can be closed. Therefore this type of system must specify module length. Similarly, to avoid impinging on the operators' pit in the centre, module widths must be restricted too. Those who choose such systems must accept these limitations and plan their modules accordingly.

Figure 4 illustrates the second type of system, the open system, which finds favour with those preferring operations. In this format the modules are free to spread out in many directions, and the layout can wander through any available shape of space as required.

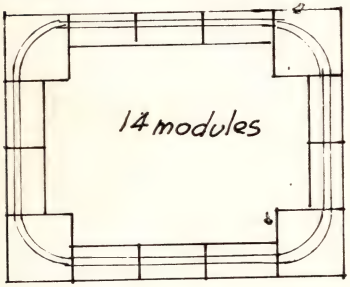
In an open system, modules from either closed OR open systems can be easily used. Continuous running can be achieved in both systems. On an open system layout this is commonly done by adding return loops at each end of the mainline, as shown in Figure 4.

But there are further practical advantages to the open format as well. As Figure 5 shows, with the same number and size of two-track modules, the open system will give each mainline train 1.7 times the run before retracing its route. Looking at it another way, it takes just over half the modules to get the same mainline route length.

Each layout contains 14 modules. Counting the crossing of each module as one unit (regardless of shape) a train will travel 14 units on the 'closed' layout before retracing its route, But it will go 24 units - or 1.7 times as far - on the 'open' layout. And you get to see all trains go through each scene in both directions.

Another advantage is the utilisation of space which may be at a premium in club and display situations. For com-

parison, let us use two layouts as shown in Figure 5 and add dimensions based on 1 unit by 2 unit modules. Figure 6 shows the results.



One complete circuit equals 14 units in length

Figure 5

One complete circuit equals 24 units lengths

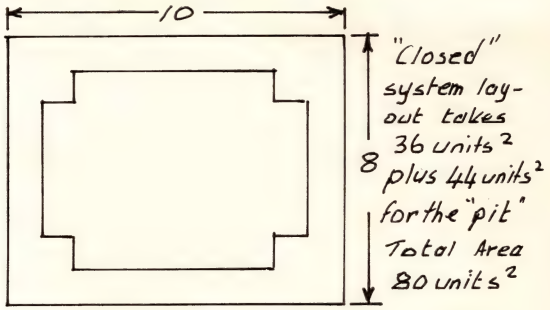
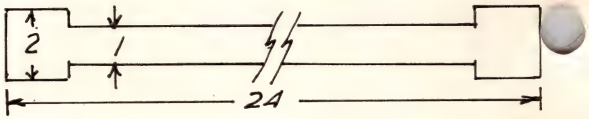


Figure 6



'Open' layout takes 28 units^2. There is no operators' pit. Both systems will also require an aisle around the outside for security. On the open layout this also serves as the operator's area. The net result is that the closed system takes 2.8 times as much space for the same number of modules.

This, added to the ability of the system to wander through any size or shape of space, are definite advantages. For public displays it is nice to be 'up front' with the trains where visitors' questions can be easily answered, and an eye can be kept on equipment for operating and security reasons.

In a modular layout, the greatest satisfaction will ultimately be derived from a system in which the creativity and imagination of the individual modeller are given free rein. If a modular system is equally suited to display and operations, a far greater number of modellers is likely to be interested in participating in the concept in the long run.

2 Practical Considerations

The modular concept certainly has come a long way from the early sectional layouts. And it is quickly maturing beyond the display layout function. The full potential of the ideas is finally being explored. There is a new realisation that modules are not only a practical way to put together a show layout, but also a very creative and practical way to construct club and home layouts as well.

While it is most desirable to keep the limitations in modular systems to a minimum, the features which affect reliability and interchangeability of modules must be defined. The amount of versatility within a system depends upon what items are standardised and in what manner and to what extent they are limited.

Let us examine each aspect of modular construction in turn to discover what needs to be specified and why. We will then discover how best to specify the important factors affecting versatility and interchangeability.

I am grateful to the help of Mr C J Freezer, Editor of the British railway modelling magazine, Railway Modeller, who has supplied me with thorough notes relating to his experiences over the past 40 years with portable and sectional layouts. His participation in this project has provided invaluable insight and support for the modular concept.

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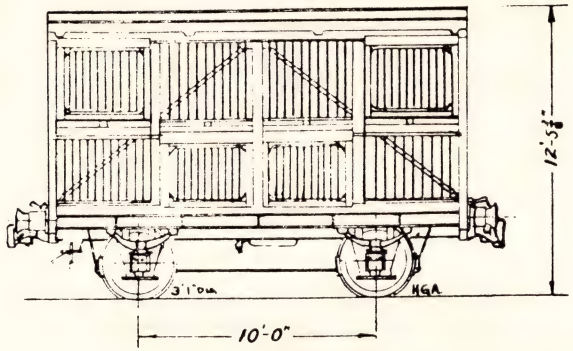

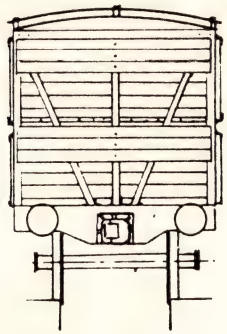

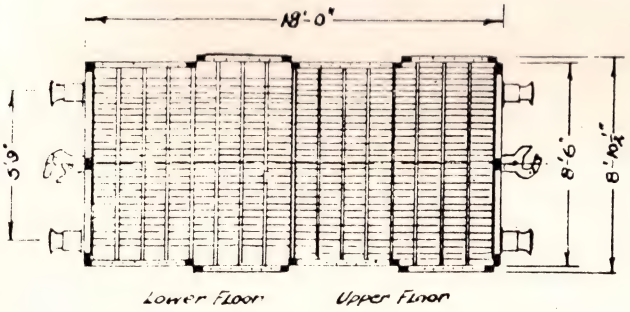

N.S.W.G.R.

SHEEP VAN

CODE: GSV

0 5 10

Scale 3.5mm = 1 foot

Drawn

Date

No

1310

NMRA DATA SHEETS	MODULAR MODELLING	
INTRODUCTION	SHEET D^{M}_{M} I	Issued July 1978

1 PURPOSE

The NMRA Guidelines for Modular Modelling are designed to help modellers realise the maximum potential of the modular concept. They are not intended to supply step-by-step instructions for the construction of a particular type of module. Rather, they encourage the modeller to consider all the aspects and applications of the modular concept and seek to provide versatility and reliability in modular construction. At the same time the guidelines stress the advantages of standardisation of those features affecting the interfacing of modules and the interchanging of equipment in the modular layout context. To these ends the guidelines have been drawn as broadly as possible to encourage creative freedom and ingenuity, yet those factors affecting reliability, flexibility and interchange, have been carefully defined to assure satisfactory operation.

The organisation of the material follows the normal sequence of layout construction and utilises, where applicable, already proven techniques and standards. References to applicable data from other sources is noted where appropriate.

As a common ground for communication, standard terminology as defined in the NMRA Directory of Information will be used throughout these guidelines. The following terminology, peculiar to the modular concept will also be adopted.

Closed system - a modular system in which the layout assembled from the individual modules forms a continuous loop upon which a train can only cross the modules in one direction on each circuit.

Co-module - (Composite module) - any one of a set of two or more modular sections which are designed to function together as a single module.

End - that part of the module framework which interfaces with another module. A module can have all ends!

Interface - those areas of a module where connections are made to adjoining modules. As a verb it means to connect the adjacent portions and systems of a modular layout.

Local cab - a cab controlling only local trackage.

Local track - all tracks on a module other than through tracks.

Low voltage power lines - the common distribution lines for low voltage a.c. and d.c. current to all modules. They are connected across interfaces by patch cords.

Module - a unit with certain standardised features which allow it to function interchangeable with other similar units on a layout

Open system - a modular system in which the layout formed from the individual modules forms a point-to-point, point-to-loop or loop-to-loop arrangement and trains pass through the modules in both directions on the through tracks. It has the possibility of unlimited expansion in any direction.

Patch cords - electrical jumper cables used to connect the low voltage power lines and through track feeders across module interfaces, and the throttle panel to the track section to be controlled by it.

Rail feeders - the wires connected to each rail from the track feeders.

Side - a non-interface part of the module framework.

Through track - any and all tracks regardless of operational function, which cross a module interface. They may or may not also be mainlines.

Track feeders - the 2 conductor electrical wiring lines to which rail feeders connect. Track feeders run para-

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llel to each through track the full length of the track and are connected across interfaces by patch cords.

2 PLANNING

A The Modular Concept

Building in modules is a new concept for many modellers. It requires a new perspective for planners accustomed to traditional 'spaghetti bowl' track plans. It means stepping back from trackside and looking at the railway in its total environment.

A railway is more than two parallel rails along which trains travel. It is more than the stations, engine houses and water tanks, which line the right of way. A railway is an artifact borne of complex socio-economic, geographic, cultural and historical circumstances. It is an amalgum of materials and human genius brought together for a purpose.

The railway exists as a means of communication between areas of activity. While railway operations can be fascinating in themselves, it is the areas of activity which are its raison d'etre. The modular concept helps to focus attention on those areas of interest.

The module builder need not plan a complete railway layout. He only needs concern himself with ONE SCENE in the total scope of activity. The module can help to delimit and shape the builder's view to a balanced scene - a piece of life - in which the railway has a reason for existing. As a planning tool the module helps shape thinking to consider essentials. It is also a psychological weapon against 'biting off more than one can chew'. It gives the builder a definite goal that can be achieved in a reasonably short span of time.

When completed the module is an aid to viewers. It provides a comprehensive unit whose limits are defined and whose purpose is clear. It is a piece to be studied in itself as a work of art. It makes the hobby of railway modelling real and understandable because the railway is put in its place as a servant of man in the total business of living.

For operators, the module helps to maintain more prototype relationships among elements on a layout. The confusing multilayered labyrinths of track, the row after row of redundant rails in the fantasies of traditional model railway rhetoric are removed. Operating becomes a pleasure. No real railway ever had a single piece of unnecessary rail. Modellers should not either.

What is wanted in a well planned module is a complete scene which communicates a character and 'feel' of a piece of life. The railway is both a product of and a contributor to the environment it serves. The successful module will reflect these qualities. As the builder's concept develops, he should always remember that carefully thought out modules can find use as a part of home or club layouts as well as an exhibition display. Design of the systems and features employed in modules should, wherever possible, permit as wide use as possible of the finished units so that maximum return is realised from the investment made.

It is tempting to draw specifications on the basis of seeming economy of materials or construction time, but this will prove to be a handicap to versatility and reliability in operation. Such false economy imposes unnecessary limitations on the concept, and should be diligently avoided.

These guidelines are specifically drawn to avoid limitations and to direct the attention of the builder to the broadest possible view of the modular idea. In this way it is hoped that many disappointments can be avoided,

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and that more useful and satisfactory results will be achieved.

B Construction Planning

In considering the practical aspects of module design, the builder should be first guided by the aesthetic and operations considerations discussed above. Construction details should support the concept and always be subordinate to it.

The use of modules means there will be movement of the units; therefore a number of construction points need to be borne in mind:

Module Protection: To minimise possible damage to the module and its components, care should be taken in the choice of benchwork methods, the location of wiring, rail and structures, and the protection provided for the module in transport. Nothing should protrude beyond the module framework or be positioned so as to invite damage during operations.

Module Shape and Size: The dimensions and outline of each module is dependent upon the concept to be expressed. However, it is wise to bear in mind some physical parameters which can affect module size.

Transport: What are the size limitations of doorways, stairways, automobiles and people, which must be met in transporting the module? Most modules will probably be transported by private automobile. By measurement and practical experience it has been found that the size 100 cm by 50 cm (39-3/8" by 19-11/16") is about the largest that will fit into the rear seat of nearly any automobile. Many scenes can be modelled in this area, and scenes requiring greater space will frequently fit into a multiple of the 100 cm by 50 cm space. In any case it would be wise to consider this as a maximum construction unit, even if your concept requires more space. The scene can be designed to cover two or more co-modules of appropriate size and shape which combine to give the necessary space.

Storage: Where and how will the module be kept when it is not in use? If the module is part of a home or club layout it is necessary to provide good access to the space for moving the unit in and out. If the module sees frequent movement, it may be worth while to consider a shipping/storage case for it. This will not only prevent damage in transport, but will help keep the unit dry, clean and out of the way when stored.

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OR SOMETHING.

By Eric G Watson

Poor old Rex has been in trouble with the Journal for some time now, but I did not realise how bad until I read the plea in Journal 130 for articles on 'or something'.

Fortunately, this is a subject on which I am a leading authority. Even today, a malady which has quite frequently laid me low for over 20 years, was once again diagnosed as 'or something'. Then again, for the past 5 years, apart from vaugely realising I was building a model railway or something, I have not been too sure of what I was doing - or even if I was building a model railway. Sometimes I suspect that I must have been a bit crazy or something, for any one with any common

sense would probably have given up years ago.

Fortunately, after 5 years, the situation has clarified, and I can now write an article on the model railway or something that I have been building.

This all started with a phone call, which in turn started me to leading a so called normal 9 to 5 life, without previous experience. This in turn meant that without previous experience, I had to try building myself an interesting 'normal 9 to 5 model railway'.

No hope - no way known was I going to do so. All I could do was build an uninteresting one, and what would be the use of that? Plenty!! I devised a theory to build a non 9 to 5 model railway suitable for 9 to 5 - a 150 sq ft layout on a 30 sq ft baseboard.

A dead bore that - so I spent the next four years teaching myself enough new skills, and developing enough new interests and ideas, to make it interesting, at the same time building the Mk II version. At the end of 1977 this was developed as far as possible.

All was well until one night I stopped and wondered what the heck was going on. It took some figuring out, but finally I realised that for the first time in my life I could not see anything closer than 3 feet properly.

I soon realised that glorious layout was a mess. A reconstruction program was started. It was made very difficult because I had no idea what could be done under the new circumstances, or how to do it, or how long it would take. It was further complicated by the fact that I realised that, with the effort to learn, I could build things which had just been pipe dreams before.

Massive problems had to be solved and a collossal amount of work had to be done, but after about 12 months it started to shape up. After another month concentrating on a couple of problem areas, and a good clean up, it was then ready for another long delayed photographic session. Alas, I was once again stricken down with this or that, or something, and I do not feel like even running a train round, let alone messing around with cameras and lenses. Being an expert on 'or something', after all these years I know that in a couple of days I will be OK again, but knowing that does not make me feel any better. Still, so long as I do not move around too much, it is a good chance to write some articles on the model railway or something that I have been building these past five years.

Technically it is my New Type Model Railway Mk III. I dedicate it to Peter Betts (Journal 120), he gave me the first clue as to how it should be designed. However, it is also 'The Sovereign State of St Erics' dedicated to M J Mullins (Journal 123) for the idea leading to my devising 'The Alladins Lamp Method of Railway Construction' New layouts for old in a few minutes, any time you want one, for the next 30 years.

The scenic theme is 'A great and glorious city - St Heljan City', dedicated to Fred Siviter (Journal 126). From his letter was devised the 'Fredmobile System', eventually adding 60 square feet of new work, without using an extra square foot of space permanently, without which space it would not have been possible to build the city.

The result is a layout so large its size cannot be estimated, but which is still suitable for a 9 to 5 hobby. So comprehensive that any idea, interest, hobby, pastime, item, or kit, can be included at any time, so long as it results in a legitimate addition to the scenic or transport themes.

You may wonder, as my articles proceed, whether or not this is a Model Railway, or something else. You must agree it has to be a model railway or something. That something is a hobby, an interesting and enjoyable pastime, that provides a relaxing diversion.

Thus, if the layout described in the following articles seems a bit odd, you might remember that a model railway IS a hobby, or an interesting, enjoyable, pastime, and a relaxing diversion.

Yes, it is a model railway or something, but one something it is not, that is something to bore yourself stiff with by chasing trains round and round like demented mice.

****

FOR READERS LETTERS

The Editor
Dear Rex

I regret I am not able to assist the Association in a useful manner at present due to circumstances surrounding home life. However, I feel that the present organisation should feel no remorse about the job being done, particularly in regard to the Journal. There are plenty of members who will not have read the reprint articles - I am one.

You require constructive suggestions. Well, I can only speak for myself - I have one need - basic help from the hobby - a simplification of the subject. I firmly believe that the hobby has become over complex and complicated.

Simple short articles for wiring, motors, small buildings, lineside features, are, I believe, of more value in assisting fellow members, than long lengthy articles on how to construct a whole locomotive, provided you have the expensive workshop equipment to hand, which I do not believe the majority of members have available.

At present I am unable to offer any kind of written suggestion, as I am the one who requires help from the trade magazines, etc. However, if and when the opportunity arises in the future where I can assist, then indeed I will.

I appreciate that some might not share my views on simplicity, but it is in no way meant as a criticism of the Journal. I, for one, value it, despite a few small shortcomings.

Yours faithfully

D R Braybrooks

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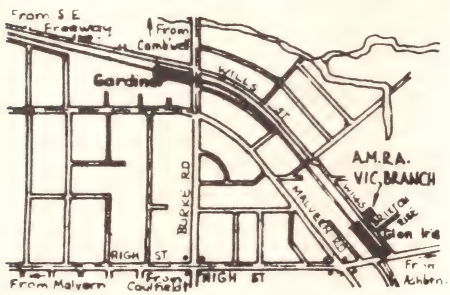
BRANCH NOTES

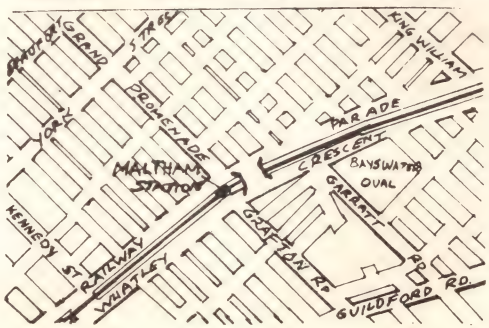
VICTORIAN BRANCH NOTES



General meetings are held on the second Thursday each month commecning at 8 p.m. at the clubrooms, 92 Wills Street, Glen Iris. The clubrooms are open from 7.30 p.m. on these nights for operation of your H.O. or N gauge trains on the club layouts.

Working Bees with some operation on the layout are held each Wednesday night with the exception of the Wednesday night before the general meeting.

WESTERN AUSTRALIAN BRANCH NOTES

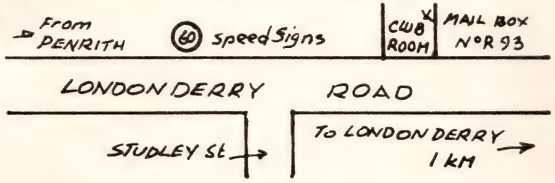


The Branch meets at Meltham Station,

on the first Monday of each month, at 8.00 p.m., and at other times as indicated on your program in the "Branch Line". Visitors and prospective members of A.M.R.A. are always welcome at any of our meetings. For further information, contact the Secretary, Mr Craig Hartmann, P.O. Box 60, Maylands.

NEWS FROM OTHER CLUBS

NEPEAN SUB-BRANCH



NEPEAN SUB-BRANCH

Sub-Branch meetings are held on the second and fourth Saturdays of each month, commencing at 7.30 pm. Visitors are welcome, and will be assured of being cordially received at any time.

The Sub-Branch is pleased to be able to report that good progress is being made on the HO and N gauge layouts, both being fully operational and work on the scenery is well in hand.

The Sub-Branch Christmas party attracted an attendance of 45, which placed a great strain on our limited accommodation. All who attended had a most enjoyable evening.

This year the Committee has decided on a change of venue for the Annual Exhibition. This will be held at the Memorial Hall, Mamre Road, St Mary's, on Saturday 25 and Sunday 26 August 1979.

Les Olsen
Sub-Branch Reporter

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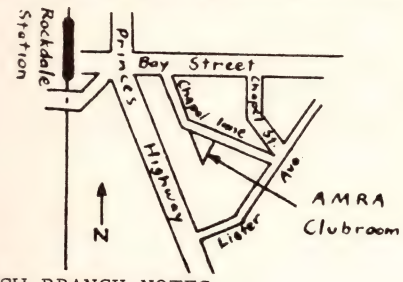
NEW SOUTH WALES BRANCH NOTES



NSW BRANCH NOTES

Work on our building is going well, with block laying and replacement of roofing iron almost complete. Progress has been good over the last few months, mainly due to the efforts of John Skilton. There is now hardly any visible sign of the corrugated iron clad building that we originally bought.

Our point to point wall layout is to receive a facelift, including an additional station and more scenery.

There is a strong possibility that the Branch's three transportable layouts will all be used at the 1979 exhibition. The Hawkesbury layout requires some work on the scenery to bring it up to exhibition standard. It's not that the scenery is in really bad condition, it's just that since it was last exhibited, there have been dramatic improvements in the quality of scenery on exhibition layouts generally. One thing we must not forget though, and that is that this was the pioneer layout, the one that started this whole Australia wide trend towards modelling

actual recognisable pieces of the local countryside.

The N gauge layout has had rather a chequered career, but Graham Middlemiss, a very capable modeller, has taken it over and it looks like we are getting somewhere with it at last. The double track main line is running reasonably well, and the branch line will also be running in the near future.

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THE St. ERICS (MODEL) RAILWAY SYSTEM.

Institute Branch - Unhandyman's class.

Notes for Lesson 4.

With a little basic data and two or three basic skills the unhandyman can make up a wide variety of storage units based on a butt joined frame.

To be successful all pieces must be correctly measured, sawn and assembled. All saw cuts must be 90 degrees each way.

Notes for Lesson 3, on selecting using and caring for tools have been omitted as this data is readily available in handyman's books.

Attention is drawn to the use of mitre boxes, though wooden mitre boxes are not recommended as the saw kerfs (saw guidecuts) can easily be damaged and the cut made other than at 90 degrees both ways. A metal mitre box such as the Stanley H114 is guaranteed to give an accurate saw cut if set up and used properly.

With the wide spread use of pre planed timber, the student must always remember: Dressed to Size the measurements are exact. Dressed to size is a larger size planed down - say 3¼" x 1¼" to 3" x 1". It is expensive because you pay for the shavings.

Dressed - This is sold in Nominal sizes; the Actual size varies. A piece of wood of the nominal size is planed down to the Actual size. Although the Nominal size may be say 3" x 1" the Actual size could be as little as 2 7/8" x 7/8". It is important to note that using Dressed Timber inside fitting pieces may need up to ¼" added. Therefore ALWAYS ascertain sizes by measurement, not guess work or mental arithmetic.

Steps for making frame.

1. Square end of piece of timber.
2. Measure size and add 1/8". Mark on surface and square line across face of timber.
3. Place timber in mitre box with saw guide line directly under saw teeth.
4. With timber held firmly flush against backplate of the mitre box - saw out the guide line.

If the measurements are made and the timber cut in a metal box as above, all pieces will be uniformly about 1/32" over size and all cuts made 90 degrees both ways.

Sawing larger sheets.

Mark out (adding 1/8" as above). Clamp a straight piece of wood along line. Hold saw flush to the piece of wood using it as a guide.

Assembly.

Drill (always) pilot holes for screws or nails, countersink heads. All edges must be flush. Corner clamps can hold here.

Note 1. When marking out bottom piece check the diagonals to make sure both are the same.

Note 2. The frame must be 90 degrees all ways. To assist make sure frame is square and then nail a batten across one diagonal. Do not hit nails right home.

Project. Make up a frame and add bottom to a size useful to yourself. In the next lesson a number of useful storage units, based on such a frame, will be given.

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Engineers Australia, December 15, 1978

Old makes way for new

A 79-year-old tram, resurrected from the Sydney Tramway Museum has helped smooth the way for trains on the Eastern Suburbs Railway.

The D-class single truck track scrubber car, in mothballs since 1962, was recommissioned by the NSW Public Transport Commission to even out corrugations on the newly laid rails.

The vintage tram was fitted with a carborundum block.

It also had a trailer with a 125kW diesel alternator attached to the back to give it power.

According to chief engineer of the Sydney Tramway Museum, Richard Clark, this is the first time in NSW that suburban train rails have had corrugations in them evened out.

This will result, he said, in less noise emission when the trains travel over them.

Clark said the entire project took more than three weeks to complete at a cost of about $3000.

The alternative to using the vintage scrubber car, he said, was for the PTC to purchase a modernised version of a scrubber car at an estimated cost of $800,000.

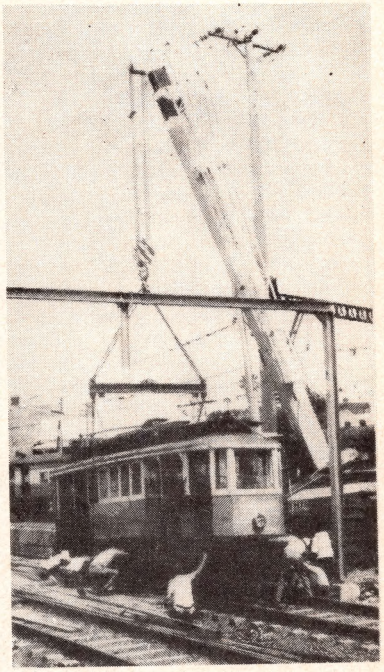
The D-class trams were introduced in Sydney in 1899 during the time of the exploratory period of electric tramcar design.

Only 25 were built and they saw limited passenger service until the mid-1920s.

After withdrawal from passenger service their most common use was as scrubbers. They performed this function until the final tramway abandonment in 1961.

On completion of the Eastern Suburbs Railway project, the venerable tram was returned to its resting place in the Sydney Tramway Museum.

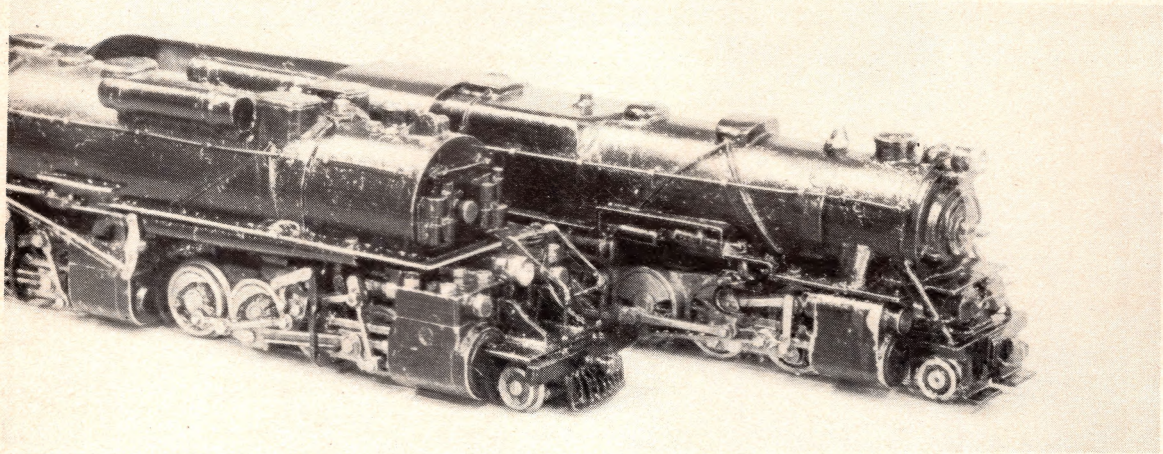
The 79-year-old tram being lifted on to the railway track



Travelling along the Woolloomooloo viaduct of Sydney's Eastern Suburbs Railway, beside a Land Rover fitted with small guide wheels so it can be used in track construction work, is a 79-year-old tram. It was brought from a museum to smooth out corrugations in the newly laid track. Attached to it is a 125kW diesel alternator which powers it.

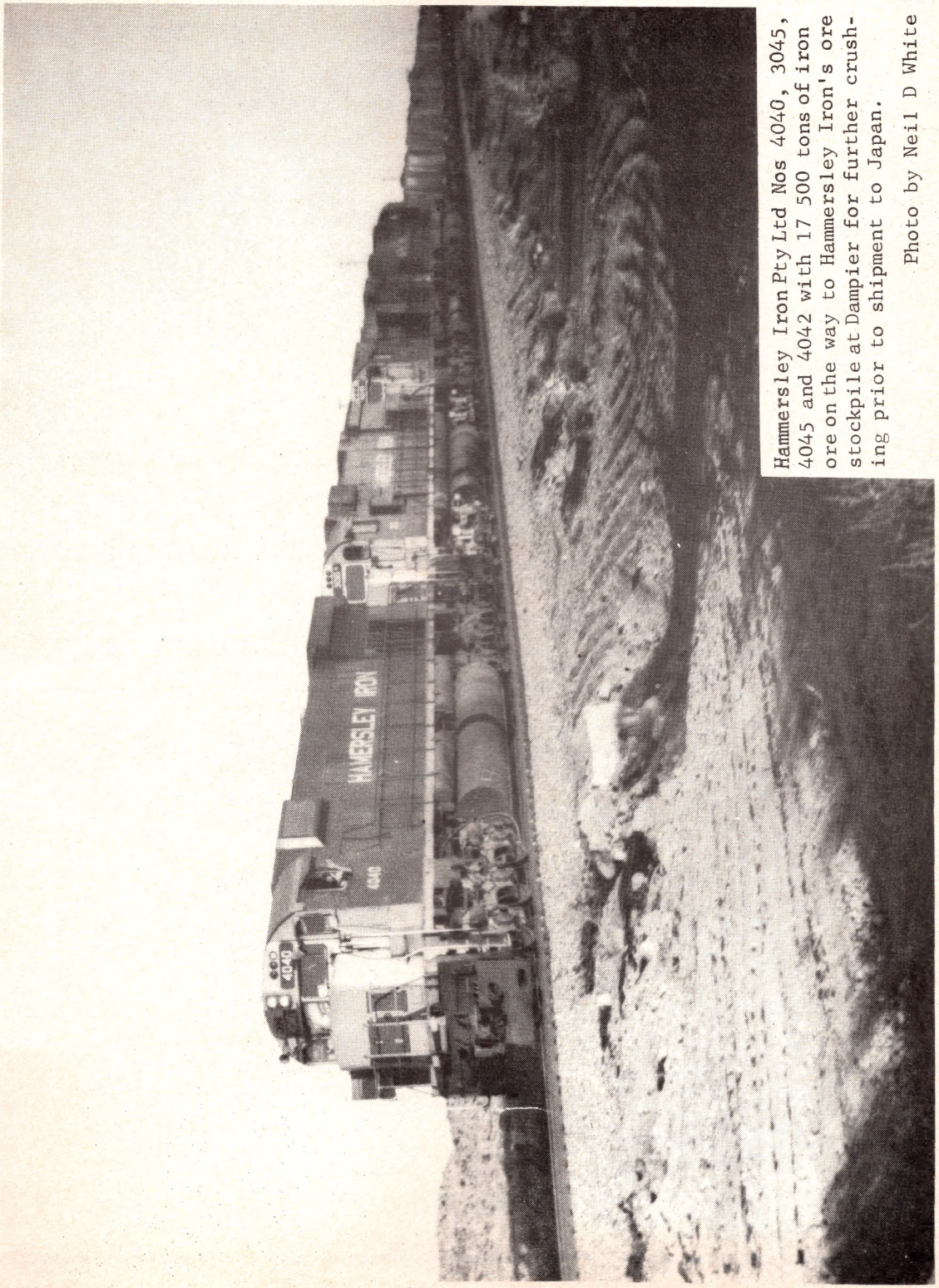
N.Y.C. Hudson 5405 drifts through to pick up its train on the Prospect Model Railway Club Layout at the NSW Branch Exhibition 1978

Photo by Jack Parker



A close up view of two of Arthur Sherwood's 1:240 scale live steam Mallett locos. NSW Exhibition 1978

Photo by Jack Parker



Hammersley Iron Pty Ltd Nos 4040, 3045, 4045 and 4042 with 17 500 tons of iron ore on the way to Hammersley Iron's ore stockpile at Dampier for further crushing prior to shipment to Japan.

Photo by Neil D White

A ballast cleaning machine, similar to this, will be one of the many automated units engaged on the Central Coast track upgrading project.

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